

Code Amendment Proposal Form

For public amendments proposed to the 2021 editions of the International Codes



Instructions: Upload this form and all accompanying documentation. If you are submitting your proposal on a separate sheet, make sure it includes all information requested below.

All proposals must be received by **July 23, 2021**.

CONTACT INFORMATION

Name: Lindsay Rogers & John Berggren **Date:** 11/3/2021 (Originally submitted: July 23, 2021)
Phone: 720-927-3055 **E-mail:** lindsayrogers@westernresources.org
Organization or Representing Self: Western Resource Advocates

By signing below, I hereby grant and assign to City and County of Denver all rights in copyright I may have in any authorship contributions I make to City and County of Denver in connection with this proposal. I understand that I will have no rights in any City and County of Denver publications that use such contributions in the form submitted by me or another similar form and certify that such contributions are not protected by the copyright of any other person or entity.

Signature:

AMENDMENT PROPOSAL

Please use a separate form for each proposal.

- 1) Code(s) associated with this proposal. Please use acronym: DGC
If you submitted a separate coordination change to another code, please indicate which code: _____

<u>Acronym</u>	<u>Code Name</u>	<u>Acronym</u>	<u>Code Name</u>
DBC-AP	Denver Building Code-Administrative Provisions	IFC	International Fire Code
DBC-xxx	Denver Building Code-xxx (code) amendments (e.g., DBC-IBC, DBC-IEBC)	IFGC	International Fuel Gas Code
IBC	International Building Code	IRC	International Residential Code
IEBC	International Existing Building Code	IMC	International Mechanical Code
IECC	International Energy Conservation Code	IPC	International Plumbing Code
		DGC	Denver Green Code

- 2) Please check here if a separate graphic file is provided:
Graphics may also be embedded within your proposal below.
- 3) Use this template to submit your proposal or attach a separate file, but please include all items requested below in your proposal. The only formatting needed is **BOLDING**, ~~STRIKEOUT~~ AND UNDERLINING. Please do not provide additional formatting such as tabs, columns, etc., as this will be done by CPD.

<p>Code Sections/Tables/Figures Proposed for Revision:</p> <ul style="list-style-type: none">DGC 2019 - Chapter 6 – Water Use Efficiency<ul style="list-style-type: none">601.3.2.1 (6.3.2.1) Plumbing Fixtures and FittingsTABLE 601.3.2.1 (TABLE 6.3.2.1) PLUMBING FIXTURES AND FITTINGS REQUIREMENTS
<p>Proposal:</p> <p>Place an “X” next to the choice that best defines your proposal: <u>X</u> Revision _ New Text ___ Delete/Substitute ___ Deletion</p>

601.3.2.1 (6.3.2.1) Plumbing Fixtures and Fittings

Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following requirements, as shown in Table 601.3.2.1 (6.3.2.1):

- a. **Water closets (toilets)** – flushometer valve type. For single-flush, maximum flush volume shall be determined in accordance with ASME A112.19.2 B45.1 and shall not exceed **1.40 gal** per flush. For dual flush, the full-flush volume shall not exceed **1.40 gal** per flush. Dual-flush fixtures shall also comply with the provisions of ASME A112.19.2. *(Comment: needs additional market survey)*
- b. **Water closets (toilets)—tank-type.** Tank-type water closets shall be certified to the performance criteria of the USEPA WaterSense Tank-Type High-Efficiency Toilet Specification and shall have a maximum full-flush volume of **1.40 gal**. Dual-flush fixtures shall also comply with the provisions of ASME A112.19.14.
- c. **Urinals.** ~~Maximum flush volume, when determined in accordance with ASME A112.19.2/ CSA B45.1, shall not exceed 0.125 gal. Flushing urinals shall comply with the performance criteria of the USEPA WaterSense Specification for Flushing Urinals.~~ Urinals shall be non-flushing and nonwater. Nonwater urinals shall comply with ASME A112.19.19 (vitreous china) or IAPMO Z124.9 (plastic) as appropriate. *(Comment: needs additional market research).*
- d. **Public lavatory faucets.** Maximum flow rate shall not exceed 0.25 gpm when tested in accordance with ASME A112.18.1/CSA B125.1.
- e. **Public metering self-closing faucet.** Maximum water use shall not exceed 0.25 gal (1.0 L) per metering cycle when tested in accordance with ASME A112.18.1/CSA B125.1.
- f. **Residential bathroom lavatory sink faucets.** Maximum flow rate shall not exceed ~~1.2~~ **1.0** gpm when tested in accordance with ASME A112.18.1/CSA B125.1. *Residential* bathroom lavatory sink faucets shall comply with the performance criteria of the USEPA WaterSense High-Efficiency Lavatory Faucet Specification.
- g. **Residential kitchen faucets.** Maximum flow rate shall not exceed 1.8 gpm (6.8 L/min) when tested in accordance with ASME A112.18.1/CSA B125.1. Kitchen faucets shall be permitted to temporarily increase the flow greater than 1.8 gpm (6.8 L/min) but shall not exceed 2.2 gpm (8.3 L/min) and must automatically revert to the established maximum flow rate of 1.8 gpm (6.8 L/min) upon physical release of the activation mechanism or closure of the faucet valve.
- h. **Residential showerheads.** Maximum flow rate shall not exceed **1.85** gpm when tested in accordance with ASME A112.18.1/CSA B125.1. *Residential* showerheads shall comply with the performance requirements of the USEPA WaterSense Specification for Showerheads.
- i. **Residential shower compartment (stall) in dwelling units and guest rooms.** The allowable flow rate from all shower outlets (including rain systems, waterfalls, bodysprays, and jets) that can operate simultaneously shall be limited to a total of 1.8 gpm.

Exception: Where the area of a shower compartment exceeds 2600 in.² (1.7 m²), an additional flow of **1.85** gpm shall be permitted for each multiple of 2600 in.² (1.7 m²) of floor area or fraction thereof.
- j. **Water-bottle filling stations.** *Water-bottle filling stations* shall be an integral part of, or shall be installed adjacent to, not less than 50% of all drinking fountains installed indoors on the premises.

TABLE 601.3.2.1 (TABLE 6.3.2.1) PLUMBING FIXTURES AND FITTINGS REQUIREMENTS

PLUMBING FIXTURE	MAXIMUM
Water closets (toilets)—flushometer single-flush valve type	Single-flush volume of 1.40 gal.
Water closets (toilets)—flushometer dual-flush valve type	Full-flush volume of 1.40 gal.
Water closets (toilets)—single-flush tank-type	Single-flush volume of 1.1 0.8 gal.
Water closets (toilets)—dual-flush tank-type	Full-flush volume of 1.40 gal.
Urinals	Flush volume 0.125 gal. Nonwater, no flush.
Public lavatory faucets	Flow rate—0.5 gpm (1.9 L/min)
Public metering self-closing faucet	0.25 gal (1.0 L) per metering cycle

<i>Residential</i> bathroom lavatory sink faucets	Flow rate— 1.2 1.0 gpm.
<i>Residential</i> kitchen faucets	Flow rate—1.8 gpm (6.8 L/min) ^a
<i>Residential</i> showerheads	Flow rate—1.8 gpm.
<i>Residential</i> shower compartment (stall) in <i>dwelling units</i> and guest rooms	Flow rate from all shower outlets total of 1.8 gpm.

a. With provision for a temporary override to 2.2 gpm (8.3 L/min) as specified in Section 601.3.2(g) [6.3.2.1(g)].

601.3.2.1 (6.3.2.2) Appliances.

a. *Clothes washers* and *dishwashers* installed within *dwelling units* shall comply with the ENERGY STAR® Program Requirements for Clothes Washers and ENERGY STAR Program Requirements for Dishwashers. Maximum water use shall be as follows:

1. *Clothes washers*—Maximum *waterfactor (WF)* of ~~5.4~~ **3.2** gal/ft³ of drum capacity (0.72~~0.43~~ L/L of drum capacity) with load sensing capability.
2. *Dishwashers*—Standard-size dishwashers shall have a maximum *WF* of 3.5 gal/full operating cycle. Compact sizes shall have a maximum *WF* of 3.5 gal/full operating cycle (13.2 L/full operating cycle). Standard and compact size shall be defined by ENERGY STAR criteria.

[See also the energy efficiency requirements in Section 701.4.7.3 (7.4.7.3).]

b. *Clothes washers* installed in publicly accessible *spaces* (**Informative Note:** e.g., multifamily and hotel common areas), and coin- and card-operated clothes washers of any size used in laundromats, shall have a maximum *WF* of ~~4.0~~ **3.2** gal/ft³ of drum capacity normal cycle (~~0.53~~ **0.43** L/L of drum capacity normal cycle). [See also the energy efficiency requirements in Sections 701.4.7.3 (7.4.7.3).]

(*Comment: Exemption for ADA*)

c. Commercial dishwashers in commercial foodservice facilities shall meet all ENERGY STAR requirements as listed in the ENERGY STAR Program Requirements for Commercial Dishwashers, Version 2.0.

Supporting Information:

Purpose: The purpose of the proposed amendment is to encourage water efficiency in new development and redevelopment in Denver by instituting best management practices for indoor, outdoor, and onsite reuse practices. By reducing per capita water consumption, Denver can build water system resilience in the face of population growth and climate change.

Reasons: The Colorado River Basin is in the midst of an unprecedented drought and these conditions will only be exacerbated in the future by climate change and population growth. In the Front Range, water conservation is our most affordable and most reliable water supply option. Smart, integrated water and land use planning efforts today will help build water resource resiliency in Denver in the future.

Substantiation & Works Cited:

Many of the original fixture volumes in the DGC have been shown to be readily available a little to no cost increase. The original DGC should be moved to the DBC and updated with these more stringent standards.

All number should be verified with number of products available here:

<https://lookforwatersense.epa.gov/products/index.html>

Referenced Standards:

Note: List any new referenced standards that are proposed to be referenced in the code.

Impact:

